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JOINT UTILIZATION OF RIGHTS-OF-WAY

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JOINT UTILIZATION OF RIGHTS-OF-WAY

by

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GENERAL

In recent years, "ecology" and "pollution" have become popular household words. For the transportation industry, joint utilization of rights-of-way is almost as popular a subject. Is this topic really "new" and why is it so really important in today's world?

All transportation companies require a corridor, a right-of-way, on which to construct and maintain their facilities to move people, goods, energy, or waste products from one place to another. These facilities may be cables and wires, highways, roads, tracks, pipelines, or any other continuous structures. They can be installed aboveground, at ground level, and underground. All are important to satisfying man's wants, needs, and desires.

The need for joint utilization of rights-of-way by transportation facilities can be separated into two general land areas - urban and rural - with each presenting separate and distinct problems. Furthermore, each mode of transportation provides a unique service for the public and thus has individual requirements for its facilities. The one thing they all have in common is the need for land on which to construct their facilities.

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In urban areas, sewer lines, water lines, gas lines, telephone cables, electric cables, steam lines, and other facilities are installed above and beneath city streets or within easement strips. In the older sections of cities, towns, and villages, these facilities are generally installed within the space dedicated for streets and/or alleys. In newer subdivisions of suburbia, and also in urban redevelopment areas of older cities, these facilities are installed within dedicated easement strips as well as within the street right-of-way. In a few communities of the nation street cars, which provide mass transportation for the public, run on tracks installed in the city streets.

At some time or another all of us have traveled along the highways and byways of our country and have seen telephone and power poles installed within the highway rights-of-way. Some of us are old enough to remember traveling by train and recall trying to count telegraph and telephone poles, usually giving up after becoming somewhat dizzy as they zipped by the windows. These aboveground facilities are easily recognized, but what is not so well known is that pipelines, usually oil or gas, share these rights-of-way. These pipelines usually share the rights-of-way merely to cross under the railroad or highway, but it is not a rarity to have parallel occupancy of the rights-of-way.

From the foregoing, it is apparent that the idea of joint utilization of rights-of-way is not "new", but has been with us for a very long time. Why, then, this growing interest in sharing rights-of-way? If there is a simple answer to this question, and there isn't, it would be the tremendous increase in land prices during the past 15 to 20 years. The complexity of the answer is in

what has caused the increase in land costs. Some of the reasons are:

1. The public's growing interest in how available land is to be used.
2. The rapid growth of suburbia.
3. The rising interest in all types of recreation.

RURAL AREAS

Despite all of these factors, the need for joint utilization in rural areas is still not very great for the following reasons:

1. Until such time as land costs are a significant cost of transportation facilities constructed in rural areas, there will be no economic necessity for joint utilization of rights-of-way. By way of example, land costs for natural gas transmission pipelines in 1970 were only approximately four percent of the total installed cost.
2. The routes traversed by various transportation facilities do not often coincide. Power plants, especially hydroelectric and nuclear, are located in remote areas while the consuming areas are the large metropolitan areas. Transmission pipelines move material from the source (oil and gas fields, water reservoirs, refineries, chemical and process plants) to the user (refineries, gas distribution utilities, water utilities, factories, and petroleum bulk terminals). Railroad connect major population centers. Roads and highways provide a method for transporting people and goods from door to door.

3. Even when different modes of transportation occupy adjacent, or nearly so, rights-of-way, the design criteria are different. Consider the requirement for constructing aboveground facilities (power lines), surface facilities (railroads and highways), and belowground facilities (pipelines and communication cables). Each presents a different set of problems relating to grades, allowable curvature, clearances, and so forth.
4. Highways and railroads, in almost all instances, own their rights-of-way. They have acquired the title to the land by dedication or purchase. Railroads were, and are, built with private funds and discourage parallel occupancy of their rights-of-way. This is quite understandable, since all other forms of transportation are in direct competition with the railroads. Additionally, (1) the cuts and fills required to obtain the necessary grades limit the working space available for construction of other facilities, and (2) the length of a facility installed within the railroad right-of-way between two points is often greater than it would be if installed within its own right-of-way. The energy transmission systems (pipelines and electric power) are in competition for the energy market and desire to maintain what competitive edge they can.

The Interstate Highway System, built entirely with public funds, has had a great impact upon the entire nation, providing the traveling public and the trucking industry with excellent highways between population centers. In rural areas, the widths of these rights-of-way are anywhere from 200 to 400 feet, and occasionally even more. Seemingly this would provide an ideal potential for joint utilization of rights-of-way. Actually, this

is not the case. The Federal Bureau of Public Roads and the various state highway departments have seen fit to drastically restrict the use of the interstate highway rights-of-way for purposes other than highway usage.

One aspect of joint utilization of rights-of-way in rural areas which has not been discussed is the influence of outside forces. Times and people's wants and needs are continually changing. The ecological and beautification factors could be a strong influence in establishing future criteria for joint utilization of rights-of-way in rural areas.

URBAN AND SUBURBAN AREAS

The tremendous population growth in the past 25 years has caused the urban and suburban areas to expand rapidly. It is not unusual to find transmission facilities, pipelines and power lines, which as recently as five years ago were in rural areas, now located in the middle of suburbia. This growth of sprawling suburban areas presents difficult problems for transmission facilities which must be expanded to meet the increasing demand for utility services such as water, electric power, telephone, gas, and sewers. All of these facilities require land, and land around metropolitan areas is an expensive commodity. The public is also demanding better transportation facilities for both private automobiles and mass transportation systems. In addition, maintenance costs for all transportation facilities in urban areas is generally more expensive than in rural areas. Zoning commissions are becoming the dominant factor in establishing the land usage in and around metropolitan areas. Urban renewal programs also are currently changing the faces of many of our cities.

CONCLUSION

All of these factors have contributed to the growing interest in joint utilization of rights-of-way in and near urban areas. There are several good and sufficient reasons why joint utilization should be a way of doing business, but from a practical standpoint, there are problems which must be resolved before it truly becomes a reality. These are safety, corrosion protection, security, expandability, and ease of maintenance. The safe operation of its facilities is a prime consideration of each and every transportation company, regardless of the specific method used to transport people, products, or energy. Although each industry is aware of the problems involved with operating its facilities in a safe and secure manner, it does not have sufficient knowledge of operating procedures of other industries. More important, each industry has to have some assurance that a failure of one facility will not adversely affect the safe operation of other facilities located within the same rights-of-way.

Expansion of facilities located in a joint right-of-way is a serious consideration. Each company sharing a right-of-way would require some assurance that it could expand its facility when necessary to do so. Space priorities would have to be resolved.

Other matters which must be considered in any discussion regarding joint utilization include the determination of where the right-of-way is to be located, the width of the right-of-way, the allocation of costs involved in acquiring the rights and allocation of space.

Other questions which quickly come to mind are:

1. Should the right-of-way be used by all utilities, plus railroads, highways, and mass transportation?
2. Should separate rights-of-way be established for separate groups of transport such as utilities in one, roads and rail in others, and so on?
3. Will the selected right-of-way meet the needs of all potential users?
4. Can facilities be planned far enough in advance with sufficient accuracy to enable planning and zoning boards to establish joint rights-of-way?
5. Who will pay the additional cost for a utility to use the joint rights-of-way if it is not the shortest route the utility could use?

These are a few of the many questions which could be asked about joint utilization. Is there any hope that joint utilization will become a reality? It is likely. Steps are already being set in motion. In 1969 an Engineering Foundation Research Conference was held in Deerfield, Massachusetts on this very topic. This was the first time that representatives of almost every form of transportation and many governmental agencies interested in transportation met and openly discussed the need for, and the objection to, joint utilization. This surely is a start. This year another Engineering Foundation Research Conference was held in Henniker, New Hampshire to discuss the feasibility of utility tunnels in urban areas. All aspects of these tunnels, including engineering design criteria, safety, security, management, economics,

financing, legislation, legal matters, and right-of-way acquisition were discussed. These conferences are the beginnings, the first steps in dialogues among interested parties to determine the advantages and disadvantages, real and imaginary, of joint utilization. As was stated earlier, joint utilization has been with us for many years and economic pressures are growing at a rate which makes joint utilization more inviting all the time. Dual utilities already share their rights-of-way when and where they can.

Certainly there are difficulties and problems to reconcile, but none are insurmountable, neither technically nor economically. Therefore, just as surely as the morning follows the night, the day of joint utilization in rural, as well as urban, areas is coming, maybe not today, but surely in some tomorrow.

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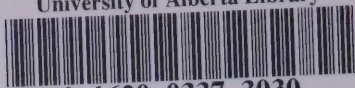
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